Schools Update Process

1. Start with 2008 data pulled from Assessor parcels based on use code data.
2. Compared with school data from Thomas Bros. (TB)
3. Compared with LA County data
4. Compared with aerial imagery
5. Compared with oblique imagery
6. Cross-referenced with Google street view
7. Compared with Google school data
8. Compared with LA Times California School Guide
9. Use of personal knowledge
10. Never entered a school in its front entrance

2008 data issues
Polygons had no attributes and were not dissolved
Confirming

- Polygon had a point from another layer
- Polygon without a point from another layer
- Points without a polygon

PURPOSE

Updating the 2008 Los Angeles County school dataset was a multi-faceted process with the main purpose to create an accurate geographic representation. The 2008 school dataset is the only polygonal representation of schools that the County presently has access to. All other school datasets use spatially suspect points to represent their locations. The need to have true geographic area representations of schools countywide becomes more evident as one acquaints them self with the wide spatial diversity that exists amongst the campuses.

INITIAL DATA SOURCE

The school update process began with the 2008 school dataset. This dataset was initially derived from Assessor parcel information using two separate attributes assigned to each parcel; the property use classification and the building design type values.

DISSOLVING

With this layer in hand, the parcels representing the schools were examined to see whether the areas were represented by multiple parcels or one single polygon area (of dissolved parcels). The reasoning behind this was that the update process would involve comparing this data layer with other point layers. A school represented by a single polygon in one data layer could be compared on a one-to-one basis with a point from another data layer. Schools represented multiple side-by-side polygons on the other hand, could realistically only have a point from another layer fall within one of those polygons. The exception in this equation, for example, would be for those schools that are on both sides of a right-of-way. This occurs more often than not when schools expand across a street that is too important to remove from the flow of traffic. Instances such as these show the school as a single unit of two polygons.

COMPARING TO EXISTING DATA

Spot checks of the dissolved 2008 school data layer revealed that there were a number of instances where the existing polygon might not actually be representing a school. Some of these errors were found to be sites representing District Headquarters, school maintenance yards, or in a few instances community colleges. Other errors were due to the inclusion of a small number of preschools. These errors were noted and removed from the updated 2011 school data layer.

With these errors removed and most schools now represented by a singe polygon, comparison could be made with other existing data sources. The first layer used to update the 2008 schools was the Thomas Bros. (TB) point school data layer licensed by the County on an annual basis. In XXX instances, there was a direct spatial correspondence between the two data layers and noted. This still left a large number of polygons in the 2008 data layer that could not be confirmed

Next, comparison was made with the County's GIS Location data layer. This dataset contains many different feature types requiring the extraction of school sites. The four school types pulled from this dataset were public elementary, public middle, public high. and private and charter. A large number of these school sites corresponded directly with the 2008 dataset and the TB points thereby serving as a tertiary confirmation source. Fortunately, this dataset contained a sizable number of school points, obtained from the Department of Education, that were not in the TB layer and served as the spatial confirmation source

The schools in the GIS Location data layer offered both advantages and disadvantages. One of the major advantages was the inclusion of sites for a large number of charter and private schools not contained in the TB data. These sites were used to confirm the locations of 2008 sites and to update attributes within the dataset.

A disadvantage of the GIS Location dataset came from this same charter and private school information. The issue here centered on whether the charter and private school still existed and whether the point for site was in its actual location. Both issues were resolved using additional data sources.

A second issue with the GIS Location layer came from the inclusion of a sizable number of sites referred to as "remote" schools. These remote sites were school points referring to a second or remote campus for a school. These sites were checked for accuracy and in nearly each instance found to NOT correspond with a school site and thus removed.

COMPARING TO IMAGERY

After the preceding step of comparing the 2008 data layer with existing point data layers, the question of whether there was a school at the site was called into question. This issue was resolved through the use of aerial imagery. The County acquired high (4") resolution and spatially accurate ortho and oblique imagery in 2008 through the consortium known as the Los Angeles Region Imagery Acquisition Consortium (LARIAC). In those

instances where a geographic point from aforementioned data sets could not be found to spatially correspond with the 2008 school data, imagery was used to substantiate the sites use. In most instances, features inherent to schools sites such as yellow crosswalks, speed limits on asphalt, football fields, hopscotch, four square, wall ball, etc., were used to confirm that a school existed at the site.

Oblique imagery was used to identify the extent of the actual school facilities. In most instances, the entire parcel (or parcels) was used to delineate the schools extent. At some locations however, this resulted in a wholly unrealistic depiction of the school site. Oblique imagery helped to identify fence lines and building uses. In a number of instances, schools were sited adjacent to school bus yards. Where this was ascertained, the fence line was identified along with the bus yard section and the polygon site for the school split to more accurately portray the extent of the school. In other instances, large swaths of school sites (parcels) were composed of undeveloped (not playing fields) land. Again, instances such as these called for the polygon to be split and the undeveloped part removed.

A third image source, Google Maps ortho imagery and its street view feature were used quite extensively. Sites where the actual land use was difficult to ascertain could be identified by the names on the outside of the structure. In a few instances, adult schools were located and removed from the 2008 data set. On other occasions, newer imagery offered by Google in some areas could be used to identify newly added structures on campus facilities and extents in the 2008 data updated. In most instances in which it was used though, school names were obtained of the front of building structures or off campus signs and then cross-checked against yet another data source to confirm or deny its existence.

FINAL UPDATE PROCESS

The final step in the update process involved was a multi-faceted process. It involved updating the final remaining 2008 sites for which no corresponding point data had been found but for which schools had been identified through imagery. It also included the step of adding sites to the 2008 data set where points from the TB or GIS Location data identified the site as a school.

If a 2008 polygon existed, we zoomed to the site using GIS applications, got a nearby address and then plugged it into Google maps to see if they had a school name at that location. If so, that name was plugged into the final data source, the Los Angeles Time California Schools Guide (CSG) (http://projects.latimes.com/schools/). In most instances, the CSG would return the school with an address that could be verified as falling somewhere within the street range of the adjoining street.

For those sites that needed to be added, the address information was gathered from one of the point data layers were it was found and zoomed to in the GIS application. Using imagery to verify that a school existed at this location, a new school polygon was added to the 2008 data layer. The name of the school site was then oftentimes gathered by

Google Street Map and the type of school and address information pulled from the California School Guide.

Far more accurate, up to date, comprehensive, accurate representation of schools with the County. A data set that will be put into extensive use amongst many County Departments and distributed freely to the public. Potential errors may be in the 2011 school data layer and updates will be made. Schools come and go…..Charter schools aplenty….need to maintain and update continually. While most school locations don't change for decades, some do and many have been added in highly dense areas along with Charter and Private schools which are trying to solve the poor quality of the school systems.